

Purchasing Receipts

PO No	Supplier	Line No	Rel No	Terms	Purchased Item	Description	Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Past Days	Due
PO039125	MES002-V/C	1	1	Net 30	MT-4140-B-1.000X1.250	4140 Steel Bar	4140 Steel Bar			6	3/7/2018	6	S019427	S019427	Stock	3/8/2018	\$ 13.07 / ft	0	
		2			MT-4140-B-1.250X1.500	Material: AISI 4140 Steel Bar				6			S049428	S049428	Stock	3/8/2018	\$ 18.78 / ft	0	
		3			MT-4140-B-1.250X2.000	AMS 6349, AMS 6382, AMS 6392, MIL-S-5626, AS PER ASTM A29, AMS 6349, AMS 6382, AMS 6392, MIL-S-5626, MIN. ROCKWELL C = 28 RC MAX. 32 RC NOTE: cut material in 12" length				6			S049429	S049429	Stock	3/8/2018	\$ 19.09 / ft	0	
		4			MT-A513-T-0.750W0.085	Alloy Steel Round				20		23	S049430	S049430	Stock	3/8/2018	\$ 2.70 / ft	0	
		5			M4140H-R1.375	4140 Round Bar				20		20	S049431	S049431	Stock	3/8/2018	\$ 9.70 / ft	0	
		6			M1018R5.500	Material: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108				4		4	S049432	S049432	Stock	3/8/2018	\$ 108.35 / ft	0	
		7			M17-4-H1150-R2.750	17-4 SS H1150 Round Bar 2.750"				6		6	S049433	S049433	Stock	3/8/2018	\$ 148.95 / ft	0	
		8			M17-4-H1150-R3.750	17-4 SS H1150 Round Bar 3.750"				6		6	S049434	S049434	Stock	3/8/2018	\$ 319.18 / ft	0	
Total:										74		77							\$:

Plex 3/8/2018 3:08 PM Dan.Dubois.Pascal

Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada



Tel (613) 632-5200

PURCHASE ORDER
PO039125

Supplier:

MES002-VC
Metaux Solutions
2625 boul Jacques-Cartier Est
Longueuil
J4N 1L7 Canada
Phone: 800 558 8858
Fax: 514 633 8044

Ship To:

1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Items

Line	Item	Part	Supplier	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
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1	MT-4140-B-	1.000X1.250		4140 Steel Bar 1,000 X 1,250 : AISI 4140N STEEL BAR PER MIL-S-5626, AMS 6382, AMS 6349, AMS 6529 receive ft	Firmed	3/7/18	6 ft	0 ft	6 ft	\$13.06666/ft	\$78.40
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2	MT-4140-B-	1.250X1.500		: AISI 4140 Steel Bar : Material: AISI 4140 STEEL BAR AS PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S- 5626 MIN. ROCKWELL C = 28 RC MAX. ROCKWELL C = 32 RC NOTE: cut material in 12" length	Firmed	3/7/18	6 ft	0 ft	6 ft	\$18.78333/ft	\$112.70
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3	MT-4140-B-	1.250X2.000		: AISI 4140 Steel Bar : Material: AISI 4140 STEEL BAR AS PER ASTM A29, AMS 6349, AMS 6382, AMS 6529, MIL-S- 5626 MIN. ROCKWELL C = 28 RC MAX. ROCKWELL C = 32 RC NOTE: cut material in 12" length	Firmed	3/7/18	6 ft	0 ft	6 ft	\$19.091666/ft	\$114.55
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4	MT-A513-T-	0.750W0.085		A513 Seamless Alloy Steel Round Tubing 0.75"dia. x 0.085" Wall	Firmed	3/7/18	20 ft	0 ft	20 ft	\$2.70/ft	\$54.00
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5	M4140H-	R1.375		4140 Round Bar 1.375 : AISI 4140H ROUND BAR PER AISI 4140OR ASTM A304-02/-A- 434-BC/-A193-03-GR4DE B7/- A29-03/-A322-91 OR UNS#- G41400 MINIMUM ULTIMATE TENSILE STRENGTH=100 KSI MINIMUM YIELD TENSILE STRENGTH=66KSI receive ft	Firmed	3/7/18	20 ft	0 ft	20 ft	\$9.70/ft	\$194.00
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PURCHASE ORDER

Line	Item	Part	Supplier	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit	Price (CAD)	Extended Price
6	M1018R5.500			M1018R5.500 MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108	Firmed	3/7/18	4 ft	0 ft	4 ft		\$108.35/ft	\$433.40
7	M17-4- H1150- R2.750			17-4 SS H1150 Round Bar 2.750" MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed	3/7/18	6 ft	0 ft	6 ft		\$148.95/ft	\$893.70
8	M17-4- H1150- R3.750			17-4 SS H1150 Round Bar 3.750" MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed	3/7/18	6 ft	0 ft	6 ft		\$319.18333/ft	\$1,915.10
Grand Total: \$3,795.85												
Order Notes												
Procurement Quality Clauses												
A005 right of entry												
A012 chemical and physical test report												
A016 personnel qualification												
A017 raw material identification (as applicable)												
A026 certification of material conformance												
A041 quality management system												
A042 dart notification by supplier												
A043 retention of quality documents												
A048 counterfeit parts avoidance, detection, mitigation and disposition program												
A049 supplier awareness												
Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.												

Plex 2/27/18 8:06 AM dart.lavoie.chantal

*** Continued on Next Page ***

Item No.	Description	Qty	Qty. Deliver	B/O Qty
MP141H	4140 HTSR PLATE 1.00" THICK 1 X 1.25" X 72" HT:pm94384 1.40	32	32	32
MP11441H	4140 HTSR PLATE 1.250" THICK 6 X 1.5" X 12" HT:pm94549	46	46	46
MP11441H	4140 HTSR PLATE 1.250" THICK 6 X 2" X 12" HT:pm94549	59	59	59
DT34083	MS TUB .750" X .083 WALL SMLS 1 X 23" HT:156C1472	23	23	23
MR13841H	4140 HTSR ROU 1.375" DIA 1 X 20" R/L ht:243796	20	20	20
HR512	HRS ROU 5.500 DIA 1018/1020 1 X 48" ***** HT:22086418	4	4	4
SR234174	ST 17-4PH ROU 2.750 DIA COND. H1150 1 X 72" ***** HT:269468	6	6	6
SR334174	ST 17-4PH ROU 3.750 DIA COND. H1150 1 X 72" *****	6	6	6

***** FACTURER E-MAIL ***** SUPER IMPORTANT SUR
LE PACKING SLIP INSCRIRE LES HEAT N

Tel.: 1 613 632-3336

Same

Ship To

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Customer: 6323336

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7
Tel: 450 641-3330

Shipping Order 07/03/2018

Order
Reference
Ship

: 133100
: PO039125
: PICK UP / PICK UP

Shipping Order 07/03/2018

Order Reference : 133100
Ship Reference : PO039125
Ship : PICK UP / PICK UP

Ship To

Same

Tel.: 1 613 632-3336

METAUX SOLUTIONS INC
2625 BOUL JACQUES CARTIER EST
LONGUEUIL, QUEBEC
J4N 1L7
Tel : 450 641-3330

Customer : 6323336

DART AEROSPACE LTD
1270, ABERDEEN STREET
HAWKESBURY, ONTARIO
K6A 1K7

Item No.	Description	Qty	Qty. Delivered	B/O Qty
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HT,9sh0213-b202
SHIP JOURNEY COLLECT
JP

Shipping :
Package No :
Merchandise Received :
Ref. :

METAUX SOLUTIONS
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7
CANADA

f.davis@metasolutions.com

Ship Via: Will Call
Tracking Number 00217

METALUX SOLUTIONS
2625 BOUL. JACQUES-CARTIER EST
LONGUEUIL QC J4N1L7
CANADA

Product Description
MSP12500

Country of origin SLOVENIA
C - 0.4130 Mn -
Cr - 0.9600 Mo -
PLATE# : 424244B
D-FARS Compliant

MSP12500

MARSHALLOYS STANDARD DELUXE

PLATE# : 424249

Country of Origin SLOVENIA

Product Description

Customer PO: 44152-JF

Drop Ship Ref:

MSP10000

1 X 34 1/8" X 145 3/4

MARSHALL STATION
ASTM A 970

DFARS Compliant

PLATE# : 42230

Country of Origin

0.4700

0006:0 - 12

[illegible]

Product Description: MSP3000

2 X 34 3/16" X 146 3/4"

MARSHALLOV STAN

ASTM A-829

PLATE# : 43345

Column of Origin

C - 0.4000

009600 -Cf -

Product Description

MSP20000

2 X 33 15/16 X 145 1/2

ASTM A-829

DFARS Compliant

PLATE#: 423941

Country of origin SL

001400 - 0
00501 - 13

.....

A2-30000

3 X 32 15/16" X 117 3/4"

AIRTRUÉ DELUXE

ASTM A-681-08
DEARBORN COMPANY

PLATE# : 423987

Country of Origin US

00860 -C

CR - 5.2000

Certification Date 5-MAR-2018

CERTIFICATE OF TEST
CERTIFICAT D'ESSAIS

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44279-J
PART NUMBER/NUMÉRO DE PIÈCE

506428

SOLD TO: METAUX SOLUTIONS INC. SHIP TO: EXPÉDIE À:
VENDU À: 2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

METAUX SOLUTIONS (RIVE-SUD)
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

Certification Date
5-MAR-2018

Invoice Number
5704138

Description: 4140/4142 HR HT BAR STRESS FREE 269/321 BHN
1-3/8 RD X 20" R/L
HEAT: 243795
ITEM: 506428

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
58	58	58	57	57	56	56	55	55	54	53	52	51	50	50
16	18	20	22	24	26	28	30	32						
19	49	48	47	46	45	45	44	43						

IDEAL DIAMETER : 7.47 IN GRAIN SIZE : 8

IMPACT TEST
TYPE TEMP ORNT SMPLE#1 #2 #3 AVG
CHARPY 68 F LONG
LAT % SHEAR EXPN DESCRIPTION

CLEANLINESS

A	B	C	D
THIN THICK	THIN THICK	THIN THICK	THIN THICK
MAX	MAX	MAX	MAX
1.5	1.0	1.5	1.0
e45			

STRAND CAST
VACUUM DEGASSED
MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL
ULTRASONIC: YES
THERMAL TREATMENT: OK
AUSTENITIZE 1616 DEG F WATER X 122'
TEMPERED 1166 DEG F AIR X 143'
STRESS RELIEVED 1094 DEG F X 143'

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrits du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.
The withal recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under Federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

JOANNE DESPRES

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44279-J

PART NUMBER/NUMÉRO DE PIÈCE

506428

SOLD TO: METAUX SOLUTIONS INC.
VENDU À:

SHIP TO:
EXPÉDIE À:

METAUX SOLUTIONS (RIVE-SUD)
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

Description: 4140/4142 HR HT BAR STRESS FREE 269/321 BHN
1-3/8 RD X 20' R/L
HEAT: 243795
ITEM: 506428
QUENCH WATER TEMP: BEFORE 86 DEG F AFTER 108 DEG F
MICRO: OK
MACRO: OK

COMMENTS
red. ratio = 60

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MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

Joanne Despres

JOANNE DESPRES

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

Certification Date
5-MAR-2018

Invoice Number
S704138

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44279-J

PART NUMBER/NUMÉRO DE PIÈCE

503415

SOLD TO:
VENDU À:

SHIP TO:
EXPÉDIE À:

METAUX SOLUTIONS (RIVE-SUD)
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

Description:

ASTM A576

HEAT: 22086418
5-1/2 RD X 4.4 (52.0")
ITEM: 503415

Line Total: 350.3 LB

Specifications:
ASTM A576 90B
ASTM A36
ASTM A388/A388M 11
ASTM E45 A 13
ASTM A370 12A
MIC 13015 ADD 7 16
ASTM A675 GR 60
EN 10204 3.1
ASTM E381 01
ASTM A711/A711M 07
ASTM A29/A29M
JDM AO QLT2
ASTM E112 13
ASTM A751 11
ASTM E10 12

CHEMICAL ANALYSIS

C	MN	SI	P	S	CR	NI	MO
0.17	0.68	0.17	0.012	0.031	0.07	0.05	0.02
V	CU	SN	AL	TI	NB	N	B
0.002	0.12	0.007	0.025	0.0009	0.004	0.0074	0.0004
PB	H	CA	W	CO			
0.003	0.0001	0.0005	0.001	0.004			

RCPT: R352771

COUNTRY OF ORIGIN : FOREIGN

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
	PSI	PSI	IN 02 IN	IN AREA	BHN
	38119.0	67832.0	26.0	58.0	131

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JOANNE DESPRES

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport ne rencontre les spécifications décrites ci-haut.

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

Certification Date
5-MAR-2018

Page 01 of 02

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 02 of 02
Certification Date 5-MAR-2018

Invoice Number
5704139

CUSTOMER ORDER NUMBER
NUMERO DE COMMANDE DU CLIENT

44279-J
PART NUMBER/NUMERO DE PIECE

503415

SOLD TO: METAUX SOLUTIONS INC.
VENDU A: 2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7
EXPEDIE A:
SHIP TO: METAUX SOLUTIONS (RIVE-SUD)

Description: 1018 HR BAR
ASTM A576
5-1/2 RD X 4'4.0" (52.0")
REMANANT
HEAT: 22086418
ITEM: 503415

Line Total: 350.3 LB

IDEAL DIAMETER: 11.09 IN GRAIN SIZE: 6

CLEANLINESS

	A		B		C		D	
	THIN	THICK	THIN	THICK	THIN	THICK	THIN	THICK
e45	2.0	1.5	0.0	0.0	0.0	0.0	0.5	0.5
	MAX	MAX	MAX	MAX	MAX	MAX	MAX	MAX

INGOT CAST
REDUCTION RATIO 18.7 TO 1
MATERIAL IS FREE FROM MERCURY CONTAMINATION
VACUUM DEGASSED

ULTRASONIC: YES
MACRO: OK
MICRO1: OK

COMMENTS
chemistry cont:

as 0.0040, zr 0.0010, sb 0.0002, zn 0.0010

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The willful recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

JOANNE DESPRES

Joanne Despres

MANAGER QUALITY ASSURANCE
GFRANT DE L'ASSURANCE QUALITE

Page 01 of 02

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

CUSTOMER ORDER NUMBER
NUMERO DE COMMANDE DU CLIENT

44279-J

PART NUMBER/NUMERO DE PIECE

527141

SOLD TO: METAUX SOLUTIONS INC. SHIP TO: EXPEDIE A:

METAUX SOLUTIONS (RIVE-SUD)
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7

Description: 17-4 HR RT BAR COND H1150
2-3/4 RD S/C 6" (72.0")
HEAT: 269468
ITEM: 527141

ASTM A564
Line Total: 121.26 LB

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

MACRO: OK
MICRO1: OK

The above data were transcribed from the manufacturer's Certificate of Test after verification
results remain on file subject to examination. Les informations ci-haut-mentionnées sont
transcrites du certificat d'essais du manufacturier après vérification de l'état complet des
specifications inscrites sur le certificat. We hereby certify that the material covered by this report
will meet the applicable requirements described herein, including any specification forming a
part of the description. Par les présentes, nous certifions que le matériel couvert par ce rapport
rencontre les spécifications décrites ci-haut.
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may be punishable as a felony under federal statutes. Les informations fausses, fictives ou
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JOANNE DESPRES

Joanne Despres

Material did not come in contact with mercury while in our
possession. Par les présentes, nous certifions que le matériel
couvert par ce rapport rencontre les spécifications décrites ci-
haut.

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

Certification Date
5-MAR-2018

Invoice Number
7376763

CERTIFICATE OF TEST CERTIFICAT D'ESSAIS

Page 01 of 02

Certification Date 5-MAR-2018

CUSTOMER ORDER NUMBER
NUMERO DE COMMANDE DU CLIENT

PART NUMBER/NUMERO DE PIECE

44279-J
527145

SOLD TO: METAUX SOLUTIONS INC. SHIP TO: METAUX SOLUTIONS (RIVE-SUD)

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1L7
2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

DESCRIPTION: 17-4 HR RT BAR COND H1150
HEAT: 95SH0213-B202
ITEM: 527145
ASTM A564
Line Total: 225.54 LB

Specifications:
AMS 5643 U
ASTM A388 16A
EN 10204 3.1
ASTM A564 TYPE 630 13
ASME SA564 TYPE 630 13

CHEMICAL ANALYSIS

C	SI	MN	P	S	NI	CR	MO
0.01	0.35	0.57	0.021	0.001	4.70	15.28	0.15
CU	NBTA	NB	TA				
3.28	0.26	0.25	0.005				

RCPT: R407275

COUNTRY OF ORIGIN : TAIWAN

MECHANICAL PROPERTIES

DESCRIPTION	YLD STR	ULT TEN	%ELONG	%RED	HARDNESS
COND H1150	120.0 KSI	140.0 KSI	24.0 IN 02 IN	75.0 IN AREA	31 RC

GRAIN SIZE : 6

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MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

JOANNE DESPRES

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CERTIFICATE OF TEST
CERTIFICAT D'ESSAIS

CUSTOMER ORDER NUMBER
NUMÉRO DE COMMANDE DU CLIENT

44279-J

PART NUMBER/NUMÉRO DE PIÈCE

527145

SOLD TO: METAUX SOLUTIONS INC.
VENDU À: METAUX SOLUTIONS (RIVE-SUD)

SHIP TO: 2625 BOUL JACQUES CARTIER EST
EXPÉDIE À: LONGUEUIL QC J4N 1L7

2625 BOUL JACQUES CARTIER EST
LONGUEUIL QC J4N 1

MATERIAL IS FREE FROM MERCURY CONTAMINATION
NO WELD REPAIR PERFORMED ON MATERIAL

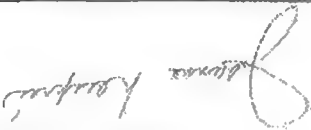
MACRO: OK
MICRO1: OK

Description: 17-4 HR RT BAR COND H1150
3-3/4 RD S/C 6.0" (72.0")
HEAT: 9SH0213-B202
ITEM: 527145
ASTM A564
Line Total: 225.54 LB

The above data were transcribed from the manufacturer's Certificate of Test after verification for completeness and specification requirements of the information on the certificate. All test results remain on file subject to examination. /Les informations ci-haut-mentionnées sont transcrites du certificat d'essais du manufacturier après vérification de l'état complet des spécifications inscrites sur le certificat. We hereby certify that the material covered by this report will meet the applicable requirements described herein, including any specification forming a part of the description. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut. The will fail recording of false, fictitious, or fraudulent statements in connection with test results may be punishable as a felony under federal statutes. /Les informations fausses, fictives ou frauduleuses en rapport avec le résultat des essais sont punissables en vertu des lois fédérales.

MANAGER QUALITY ASSURANCE
GÉRANT DE L'ASSURANCE QUALITÉ

JOANNE DESPRES



Material did not come in contact with mercury while in our possession. /Par les présentes, nous certifions que le matériel couvert par ce rapport rencontre les spécifications décrites ci-haut.

Material Test Report

aris
TM

MTR No.	0000056608
Date	4/30/2016

TEST CERTIFICATE ACC TO DIN 60049 3.1 B/EN: 10204: 3.1

Customer:

Part Number: 87-15955-17

PO Number: 87-15955

Description: A51315-14; SRA; DOM; Grade: 1020; Category: CARBON WELDED; Round; OD=0.750"; ID=0.584"; (WT=0.083); Deburred; Length=240" to 288"

Product: TUBE

Heat No: 15C1472

Spel Grade: 1020

Ends: Deburred

DIMENSIONS				TOLERANCE				QUANTITY			
OD	ID	WT	MM	IN	MM	IN	UOM	NUMBER	METER/FT	WEIGHT TON	
19.050	14.634	2.108	0.750	0.083	0.000	0.000	IN	1	1.588.371	5.244.000	1.550
0.000	0.000	0.000	0.000	0.000	0.000	0.000	IN				
0.000	0.000	0.000	0.000	0.000	0.000	0.000	IN				
0.000	0.000	0.000	0.000	0.000	0.000	0.000	IN				
0.000	0.000	0.000	0.000	0.000	0.000	0.000	IN				

CHEMICAL ANALYSIS											
ELEMENTS				UOM				MIN			
Carbon (C)	%	0.1800	0.2300	0.1800	0.2300	0.1800	0.2300	0.1800	0.2300	0.1800	0.2300
Manganese (Mn)	%	0.3000	0.6000	0.3000	0.6000	0.3000	0.6000	0.3000	0.6000	0.3000	0.6000
Silicon (Si)	%	0.1700	0.4300	0.1700	0.4300	0.1700	0.4300	0.1700	0.4300	0.1700	0.4300
Aluminum (Al)	%	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120
Phosphorus (P)	%	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350	0.0350
Sulfur (S)	%	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100
Chromium (Cr)	%										
Nickel (Ni)	%										
Molybdenum (Mo)	%										
Vanadium (V)	%										
Copper (Cu)	%										
Columbium (Cb)	%										
Calcium (Ca)	%										
Titanium (Ti)	%										
Nitrogen (N)	%										
Boron (B)	%										
Zirconium (Zr)	%										
Antimony (Sb)	%										
Tin (Sn)	%										

100% EDDY CURRENT TESTING- E309											
PASSED											
FLATTENING TEST											
2/3% OF OD 1/3% OF OD PASSED											
FLARING TEST											
15% OF ID PASSED											
STRAIGHTNESS											
PASSED (1/1000 MM)											

Remarks:

Melted In: INDIA
Produced In: INDIA
Product is free of weld repair and has not come in contact with Mercury or any of its components.
We hereby Certify that the material described above conforms to Specification and Purchase Order.

Bill Johnston
Quality Co-ordinator

Any questions, Please email: TestReports@aris-llc.com

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M1018 R5.500 DATE: MAR 08 2019

PO / BATCH NO.: 039125/5049432

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 4'
 QUANTITY INSPECTED: 4'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 5.500
 THICKNESS RECEIVED: 5.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER

Testers located in the Quality Office

QC 18 INSPECTION
 ENGINEERING SIGNOFF (if required)
 INSPECTED BY: DAS
 SIGNED OFF BY: _____
 DATE: 9-89 MAR 08 2018

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION:

MIL-S-7097 OR ASTM A108

PART NUMBER:

M1018-R/D DDD WHERE D DDD = DIAMETER IN INCHES

DIA.

EG. 7/8" ROUND BAR = M1018-R/D.875

TOLERANCES:

PER ASTM A108 AS FOLLOWS:

SIZE TOLERANCE
 UP TO 1.5" INCL. +0.000/-0.002
 OVER 1.5" TO 2.5" INCL. +0.000/-0.003
 OVER 2.5" TO 4.0" INCL. +0.000/-0.004
 OVER 4.0" TO 6.0" INCL. +0.000/-0.005
 OVER 6.0" TO 8.0" INCL. +0.000/-0.006

DECLASSIFIED
 DD 2012-09-24

B	REFORMAT. ADD ASTM A108, ADD TOLERANCES	CP	12.09.05
A	NEW ISSUE	DS	01.06.12
REV	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	CP		
CHECKED	CP		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	12.09.05		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. M1018-R TITLE 1018-1025 ROUND BAR REV. B SHEET 1 OF 1 SCALE MTS COPYRIGHT © 2004 DART AEROSPACE LTD "THIS DOCUMENT IS UNCLASSIFIED AND IS NOT TO BE RELEASED TO THE PUBLIC WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD."			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H1150-R 3.750 DATE: MAR 08 2018

THICKNESS ORDERED: 3.750 THICKNESS RECEIVED: 3.750

SHEET SIZE ORDERED: N/A SHEET SIZE RECEIVED: N/A

QUANTITY INSPECTED: 6 QUANTITY RECEIVED: 6

QUANTITY REJECTED: 0

PO / BATCH NO.: 039125/5044434

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	(Y)	
CORRECT FINISH	(Y)	
CORROSION	(Y)	
CORRECT GRAIN DIRECTION	(Y)	
CORRECT MATERIAL PER M-DRAWING	(Y)	
CORRECT THICKNESS	(Y)	
PHOTO REQUIRED	(Y)	
CORRECT REF # TO LINK CERT	(Y)	
CORRECT MATERIAL IDENTIFICATION	(Y)	
CORRECT M# ON THE MATERIAL	(Y)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	(Y)	
DOES THIS REQUIRE AN EXTRUSION REPORT	(Y)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.	RECORD RESULTS BELOW	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL	SIZE OF TEST SAMPLE	HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC-18 INSPECTION ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS

DATE: 8-89 MAR 18 2018

SIGNED OFF BY:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE



SPECIFICATION:

AMS 5643 OR ASTM A564



PART NUMBER:

M17-4- | HHHH- | R | X.XXX | WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND | O.D. | X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS

MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART
4.000" DIAMETER BAR MIN LWS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

PART NUMBER
M17-4-R4.000
M17-4-H900-R2.500
M17-4-H1025-R3.250
M17-4-CONDA-R0.750

RELEASED
11 2017-10-31
EVAL-728

APPROVED

DESIGN	NO	DESCRIPTION	NO	DATE
DRAWN	CP	DART AEROSPACE LTD	VS	17.09.14
CHECKED	CP	HAWKESBURY, ONTARIO, CANADA	VS	10.03.20
MFG. APPR.	RA			
APPROVED	WM			
DE APPR.	CP			
DATE	17.09.14			

REV. C
SHEET 1 OF 1
SCALE
NTS

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H150R2.750 DATE: MAR 08 2018
 PO / BATCH NO.: 039185/5049433

MATERIAL CERT REC'D: Yes QUANTITY RECEIVED: 61
 QUANTITY INSPECTED: 61 QUANTITY REJECTED: 0
 THICKNESS ORDERED: 2.750 THICKNESS RECEIVED: 2.750
 SHEET SIZE ORDERED: N/A SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	
CORROSION	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	
CORRECT THICKNESS	<input checked="" type="checkbox"/>	
PHOTO REQUIRED	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS SIGNED OFF BY: _____ DATE: MAR 08 2018

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5643 OR ASTM A564
PART NUMBER: M17-4-1 HHHH-R X.XXX WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND O.D. X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	185	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART 4.000" DIAMETER BAR MIN DYS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

PART NUMBER M17-4-R1.000
M17-4-H900-R2.500
M17-4-H1025-R3.250
M17-4-CONDA-R0.750

RELEASED
11/10/2017 -10-31
EVAL-728

APPROVED

DESIGN	NO	DESCRIPTION	DATE
DRAWN	CP	DART AEROSPACE LTD	17.09.14
CHECKED	CP	HAWKESBURY, ONTARIO, CANADA	
MFG. APPR.	RA	DRAWING NO. M17-4-R	REV. C
APPROVED	WM	TITLE 17-4 SS ROUND BAR	SHEET 1 OF 1
DE APPR.	CP	SCALE	NTS
DATE	17.09.14		

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MATERIAL RECEIPT INSPECTION FORM

PO / BATCH NO.: 039125/5049431

THICKNESS ORDERED: 1.375
 THICKNESS RECEIVED: 1.375
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

MATERIAL: M4140H-R1.375
 DATE: MAR 08 2018

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 20'
 QUANTITY INSPECTED: 20'
 QUANTITY REJECTED: 0'

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y	
CORRECT FINISH	Y	
CORROSION	Y	
CORRECT GRAIN DIRECTION	Y	
CORRECT MATERIAL PER M-DRAWING	Y	As to A193
CORRECT THICKNESS	Y	
PHOTO REQUIRED	Y	
CORRECT REF # TO LINK CERT	Y	
CORRECT MATERIAL IDENTIFICATION	Y	Heat # 243795
CORRECT M# ON THE MATERIAL	Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION
 ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS
 SIGNED OFF BY:

DATE: 9-89 MAR 08 2018

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

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EG. $\frac{7}{8}$ ROUND BAR = M140H-R0.875

MINIMUM ULTIMATE TENSILE STRENGTH = 100 KSI!
MINIMUM YIELD TENSILE STRENGTH = 66 KSI!

004149 - # 540

19-02-03 / -A29-03 / -A228-91 OK

PER AISI 4140 OR ASTM A304-02/-A-434-BC /

PURCHASE MATERIAL: AISI 4140 H ROUND BAR

DESIGN	DRAWN BY		CHECKED	APPROVED		DATE	TITLE	SCALE	1:1
#	#		#	#	M4140H-R	05.02.21	4140 ROUND BAR		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA						DRAWING NO.	REV. A	SHEET 1 OF 1	
						NEW ISSUE	A	05.02.21	

DART

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-A513-T-0.750W0.085 PO / BATCH NO. Q39126/5049430 DATE: MAR 08 2018

MATERIAL CERT REC'D:	<u>YES</u>	THICKNESS ORDERED:	<u>W.0.085</u>
QUANTITY RECEIVED:	<u>23'</u>	THICKNESS RECEIVED:	<u>W.0.085</u>
QUANTITY INSPECTED:	<u>23'</u>	SHEET SIZE ORDERED:	<u>N/A</u>
QUANTITY REJECTED:	<u>0</u>	SHEET SIZE RECEIVED:	<u>N/A</u>

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS DATE: MAR 08 2018

SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW RELEASE	17-655	17/09/08	VM	VM
B	TYPE 5 ADDED, TEMPLATE UPDATED	17-790	17/12/13	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)

SPECIFICATION: ASTM A513 TYPE 5

PART NUMBER: MT-A513-T-(D.DDD)MT.TTT

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES

WHERE T.TTT IS WALL THICKNESS IN INCHES

EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

DART AEROSPACE		Hemel Hempstead, Ontario, Canada	
TITLE ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING (DOM)			
PART NO MT-A513-T		REV B	
TOOL NO		DATE	
DESIGNED BY: VM 17/12/13		CHECKED BY: ML 12/20/2017	
DRAWN BY: VM 17/12/2017		CHECKED BY: ML 12/20/2017	
APPROVED BY: ML 12/20/2017		SCALE: NTS	
SHEET 1 OF 1		SHEET 1 OF 1	
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M7-4140-B-1.250x2.000 DATE: MAR 08 2018
 PO / BATCH NO.: 039125/5049429

THICKNESS ORDERED: <u>1.250</u>	MATERIAL CERT REC'D: <u>yes</u>
THICKNESS RECEIVED: <u>1.250</u>	QUANTITY RECEIVED: <u>6'</u>
SHEET SIZE ORDERED: <u>N/A</u>	QUANTITY INSPECTED: <u>6'</u>
SHEET SIZE RECEIVED: <u>N/A</u>	QUANTITY REJECTED: <u>0</u>

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	
CORROSION	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	
CORRECT THICKNESS	<input checked="" type="checkbox"/>	
PHOTO REQUIRED	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW	HRC	HRB	DUR A	DUR D
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC #8 INSPECTION	ENGINEERING SIGNOFF (if required)	INSPECTED BY: <u>DAS</u>	DATE: <u>MAR 08 2018</u>
		SIGNED OFF BY:	DATE:

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	18-544	18.2.13	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE
 MINIMUM ROCKWELL C = 28 Rc
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION: ASTM A829, AMS 6395

PART NUMBER: MT-4140-S-IT-TTTT x W.WWW
 WHERE "T.TTTT" = THICKNESS IN INCHES
 WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

TITLE		DATE																									
AISI 4140 / 4142 STEEL SHEET OR PLATE		18.2.13																									
PART NO		BY																									
MT-4140-S		VM																									
REV		APPROVED																									
A		ML																									
<table border="1"> <tr> <td>DESIGNED BY:</td> <td>VM 21/3/2018</td> <td>CHECKED BY:</td> <td>VM 02/13/2018</td> <td>APPROVED BY:</td> <td>ML 02/14/2018</td> </tr> <tr> <td>DRAWN BY:</td> <td>VM 02/13/2018</td> <td>CHECKED BY:</td> <td>VM 02/13/2018</td> <td>APPROVED BY:</td> <td>ML 02/14/2018</td> </tr> <tr> <td>SCALE:</td> <td>AS SHOWN</td> <td>SCALE:</td> <td>AS SHOWN</td> <td>SCALE:</td> <td>AS SHOWN</td> </tr> <tr> <td colspan="6">SHEET 1 OF 1</td> </tr> </table>				DESIGNED BY:	VM 21/3/2018	CHECKED BY:	VM 02/13/2018	APPROVED BY:	ML 02/14/2018	DRAWN BY:	VM 02/13/2018	CHECKED BY:	VM 02/13/2018	APPROVED BY:	ML 02/14/2018	SCALE:	AS SHOWN	SCALE:	AS SHOWN	SCALE:	AS SHOWN	SHEET 1 OF 1					
DESIGNED BY:	VM 21/3/2018	CHECKED BY:	VM 02/13/2018	APPROVED BY:	ML 02/14/2018																						
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SCALE:	AS SHOWN	SCALE:	AS SHOWN	SCALE:	AS SHOWN																						
SHEET 1 OF 1																											

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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M.F-4140-B-1.250X1.500 DATE: MAR 08 2018
 PO / BATCH NO.: 039125 / 8449428

MATERIAL CERT REC'D: YES
 QUANTITY RECEIVED: 6'
 QUANTITY INSPECTED: 6'
 QUANTITY REJECTED: 0
 THICKNESS ORDERED: 1.250
 THICKNESS RECEIVED: 1.250
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	(Y)	
CORRECT FINISH	(Y)	
CORROSION	(Y)	
CORRECT GRAIN DIRECTION	(Y)	
CORRECT MATERIAL PER M-DRAWING	(Y)	
CORRECT THICKNESS	(Y)	
PHOTO REQUIRED	(Y)	
CORRECT REF # TO LINK CERT	(Y)	
CORRECT MATERIAL IDENTIFICATION	(Y)	
CORRECT M# ON THE MATERIAL	(Y)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	(Y)	
DOES THIS REQUIRE AN EXTRUSION REPORT	(Y)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
RECORD RESULTS BELOW				
HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL				
SIZE OF TEST SAMPLE				
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION
 ENGINEERING SIGNOFF (if required)
 INSPECTED BY: DAS
 DATE: 9-89 MAR 08 2018
 SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	18-544	18.2.13	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE

MINIMUM ROCKWELL C = 28 Rc
MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:

ASTM A829, AMS 6395


PART NUMBER:

MT-4140-S-[T.TTT] x [W.WWW]

WHERE "T.TTT" = THICKNESS IN INCHES

WHERE "W.WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063
EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

 DART AEROSPACE	
TITLE	
AISI 4140 / 4142 STEEL SHEET OR PLATE	
PART NO.	REV
MT-4140-S	A
TOL. NO.	
INITIALS AND DATE	
DESIGNED BY: VM 2/13/2018	ISSUED BY: VM 2/13/2018
CHECKED BY: VM 02/13/2018	APPROVED BY: ML 02/14/2018
DATE: 02/13/2018	SCALE: NTS
SHEET 1 OF 1	
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M-T-21140-B-1.000X1.250 DATE: MAR 08 2018
 PO / BATCH NO.: 039125/5049407

MATERIAL CERT REC'D:	<u>yes</u>	THICKNESS ORDERED:	<u>1.000</u>
QUANTITY RECEIVED:	<u>6'</u>	THICKNESS RECEIVED:	<u>1.000</u>
QUANTITY INSPECTED:	<u>6'</u>	SHEET SIZE ORDERED:	<u>21/4</u>
QUANTITY REJECTED:	<u>0</u>	SHEET SIZE RECEIVED:	<u>21/4</u>

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	<input checked="" type="radio"/> Y	
CORRECT FINISH	<input checked="" type="radio"/> Y	
CORROSION	<input checked="" type="radio"/> Y	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y	
CORRECT THICKNESS	<input checked="" type="radio"/> Y	<u>Asm A829</u>
PHOTO REQUIRED	<input checked="" type="radio"/> Y	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y	
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y	<u>Hot # 94384</u>
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	<input checked="" type="radio"/> Y	
DOES THIS REQUIRE AN EXTRUSION REPORT	<input checked="" type="radio"/> Y	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.				
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D
SIZE OF TEST SAMPLE				WEBSTER
HARDNESS / DUROMETER READING				

Testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u>	SIGNED OFF BY: _____
DATE: <u>9-8 MAR 08 2018</u>	DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW ISSUE	18-544	18.2.13	VM	ML

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL : AISI 4140 / 4142 STEEL SHEET OR PLATE
 MINIMUM ROCKWELL C = 28 Rc
 MAXIMUM ROCKWELL C = 32 Rc

SPECIFICATION:

ASTM A829, AMS 6395

PART NUMBER:

MT-4140-S-TT x W.WWW
 WHERE "T, TT" = THICKNESS IN INCHES
 WHERE "W, WWW" = WIDTH IN INCHES (OPTIONAL FOR SPECIFYING CUT PLATE)

EX. 0.063" THICK SHEET = MT-4140-S-0.063
 EX. 3.5" WIDE BY 0.500" THICK PLATE = MT-4140-S-0.500X3.500

DART AEROSPACE		Headquarters, Ontario, Canada	
TITLE AISI 4140 / 4142 STEEL SHEET OR PLATE			
PART NO. MT-4140-S		REV A	
TOOL NO.			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DIMENSIONS APPLY AFTER FINISHING			
DESIGNED BY: VM 2/13/2018	INITIALS AND DATE	TOLERANCES:	FRACTIONS 1/8
DRAWN BY: VM 02/13/2018		XXX ± .005	SURFACE 1.5
CHECKED BY: VM 02/13/2018		X ± .1	ROUGHNESS
WFO REVIEW BY: DD 02/13/2018			
APPROVED BY: ML 02/14/2018		SCALE: NTS	SHEET 1 OF 1

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